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DATE MAILED: 06/26/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☑ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☑ Claims 1 - 27 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☑ Claims 1 - 27 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

SUPPLEMENTAL OFFICE ACTION

Remarks

1. The 35 U.S.C. §§ 102, 103, and 112 rejections of the previous Office Action, dated November 12, 1995, are hereby incorporated by reference into this Supplemental Office Action. The Amendment submitted has been entered and examined only with respect to its 101 ramifications.

2. Examiner notes the Applicant traverses the rejection and takes exception to the Quicken reference. Examiner respectfully states that Quicken was not cited nor applied as a reference in the previous Office Action. Furthermore, the amendment did not address the 112 rejections made in the Office Action. Examiner respectfully notes that a failure to do so in a subsequent response to this Action will result in non-responsive letter or the Action being made final.

3. Examiner notes that no 35 U.S.C. § 101 rejection was made in the original Office Action. In light of recent court decisions and the PTO guidelines a 101 rejection has been included in the instant Application. The period for response will be restarted at the time of mailing of this Supplemental Office Action.

Claim Rejections - 35 U.S.C. § 101

4. 35 U.S.C. § 101 reads as follows:

> "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

5. Claims 1-4, 6, 8-27 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter, generally an abstract idea, specifically a mathematical algorithm.

The invention is claimed in steps-plus-function for the method Claims 1-20 and means-plus-function language for the apparatus Claims 21-27. Of the 27 claims, Claim 1 is an independent claim drawn

to a method, and claim 21 is an independent claim drawn to the system. The method and system claims correspond almost item for item, where steps and means are merely substituted for one another.

Regardless of whether the claim is drafted as process or apparatus, the Federal Circuit held that the mathematical algorithm/physical transformation test for statutory subject matter under 101 applies even to "true apparatus" claims, *Alappat*, 33 F.3d at 1542. The C.C.P.A. also adopted this view and it has been cited with approval in the D.C. district court's most recent decisions involving 101, *State Street Bank and Trust v. Signature Financial Group Inc. (DC Mass 1996)*:
Labels are not determinative in 101 inquiries. "*Benson* applies equally whether an invention is claimed as an apparatus or process, because the form of the claim is often an exercise in drafting." *In re Johnson*, 589 F.2d 1070, 1077 (C.C.P.A. 1978) . . . . Moreover, that the claimed computing system may be a 'machine, within the ordinary sense of the word,' . . . is irrelevant. *In re Maucorps*, 609 F.2d 481, 485 (C.C.P.A. 1979).

Therefore, the use of claim language drawn to method versus a system is merely an exercise in the art of claim drafting to what is actually the same invention. The analysis of the patentability of claimed subject matter therefore does not hinge on whether the claim is drafted in means-plus-function or step-plus-function language.

6. Examiner asserts that when read in light of the specification, as required by *Donaldson*, and after application of the Freeman-Walter-Abele test the claimed invention essentially claims a math algorithm.

Freeman-Walter-Abele Test

The C.C.P.A. devised a two-part test, also followed by its successor, the Federal Circuit, to implement the principles elucidated above, *See In re Alappat*, 33 F.3d 1526, 1545; 31 U.S.P.Q.2d 1545 (Fed. Cir. 1994) (noting this two-part analysis is not sole means of determining whether a computer-implemented invention is patentable but that it remains a useful analytic tool). Gleaned from three cases, *See In re Abele*, 684 F.2d 902, U.S.P.Q. 682 (C.C.P.A. 1982); *In re Walter*, 618 F.2d 758, 205 U.S.P.Q. 397 (C.C.P.A. 1980); *In re Freeman*, 573 F.2d 758, 197 U.S.P.Q. 464)

(C.C.P.A. 1978), the analysis is known as the Freeman-Walter-Abele test, which the Federal Circuit has recently described as follows:

> It is first determined whether a mathematical algorithm is recited directly or indirectly in the claim. If so, it is next determined whether the claimed invention as a whole is no more than the algorithm itself; that is, whether the claim is directed to a mathematical algorithm that is applied to or limited by physical elements or process steps. Such claims are nonstatutory. However, when the mathematical algorithm is applied to one or more elements of an otherwise statutory process claim, . . . the requirements of section 101 are met.

Examiner finds additional support for this contention in *In re Schrader* 22 F.3d at 292 (cited with approval in *State Street*, 38 U.S.P.Q. 1530) where the Federal Circuit declined to afford patent protection for a linear computer program applied to solving business problems. The court upheld the rejection of the claimed process on the ground it was a non-statutory mathematical algorithm. Contrasting claims that "involved the transformation or conversion of subject matter representative of or constituting physical activity or objects," as in *Arrhythmia*, the court held that the entering of bids in a record was non-patentable "data gathering" and calculating bids to maximize sales revenue simply involved processing one set of numbers into another. *Schrader*, 22 F.3d at 293; accord *Alappat*, 33 F.3d at 1526 (suggesting that a "business methodology for deciding how salesmen should best handle respective customers . . . [does not] fall[ ] within any s 101 category.") (citing *Maucorps*); *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989) (pre-solution data gathering steps do not impart patentability to invention claiming mathematical algorithm); *cf. In re Trovato*, 42 F.3d 1376, 1380-83 (Fed. Cir. 1994) (holding non-statutory apparatus that calculates numerical values representing shortest distance between two points in "physical task space"), vacated, 60 F.3d 807 (Fed. Cir. 1995) (*en banc*) (for reconsideration in light of new patent guidelines).

In re Schrader, F.3d 290, 292, 30 U.S.P.Q.2d (Fed. Cir. 1994) (quoting *Arrhythmia*, 958 F.2d at 1058). To be patentable under this test, an invention must "comprise an otherwise statutory process whose mathematical procedures are applied to physical process steps." *Arrhythmia*, 958 F.2d at 1059.

The PTO Software Examination Guidelines

7. Further support for Examiner's position is garnered from the recently issued PTO paradigm on computer software patentability. On February 28, 1996, Examination Guidelines for

Computer-Related Inventions ("Guidelines") were published in the Federal Register and formally became effective on March 29, 1996. 61 Fed.Reg. 7478 (1996). The Guidelines are designed to assist patent examiners in reviewing applications during patent prosecution and are intended to be consistent with Supreme Court and Federal Circuit precedent. *Id.* at 7479.

A brief discussion of the Guidelines is helpful here.

As a threshold matter, the PTO provided a framework for analyzing claims that encompass "any machine or manufacture embodiment of a process" as follows: If a product claim encompasses any and every computer implementation of a process, when read in light of the specification, it should be examined on the basis of the underlying process.

Guidelines, 61 Fed. Reg. at 7482. In other words, when determining whether computer software is patentable, the manner in which it is claimed is not itself determinative, particularly when the claim language is so broad that any and all means of implementing the claimed functions on a computer would be covered by the patent. The PTO must look beyond the claim drafting to determine what functions the invention performs. If the underlying process performed by the software is non-statutory, a machine claim for the same invention is non-statutory. *Id.* at 7482-83.

The Guidelines state that "a process that merely manipulates an abstract idea or performs a purely mathematical algorithm is non-statutory despite the fact that it might inherently have some usefulness." *Id.* at 7484. Incorporating the physical transformation test, the Guidelines also provide:

If the 'acts' of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process, *Id.* (emphasis added). The Guidelines point out that a claimed process "that consists solely of mathematical operations is non-statutory whether or not it is performed on a computer." *Id.* However, a process will receive statutory protection if it is limited to a practical application of the abstract idea or mathematical algorithm in the technological arts (i.e., involve some species of physical transformation of input data) *Id.*

In the instant claims, the algorithm based invention is not limited to a practical application of the algorithm in the technological arts, therefore, analysis of the claims according to the software guidelines results in a finding they are drawn to an abstract idea, or a mathematical algorithm (which is a subclass of abstract ideas), and therefore drawn to non-statutory subject matter and unpatentable. *See State Street v. Signature*, 38 U.S.P.Q.2d 1530. Also *see Loew's Drive-In Theaters Inc. v. Park-In Theaters. Inc.*, 174 F.2d 547, 552 (1st Cir.) (equating methods of doing business with abstract idea doctrine), *cert. denied*, 338 U.S. 822 (1949); *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467, 469 (2d Cir. 1908) (same). Recent decisions, while not holding explicitly on these grounds, recognize the continued validity of that rule. *See Alappat*, 33 F.3d at 1541 (suggesting that "business methodology" is not s 101 subject matter); *Grams*, 888 F.3d at 837 (listing "methods of doing business" as among categories of non-patentable subject matter); *Ex parte Murray*, 9 U.S.P.Q.2d 1819, 1820 (PTO Bd. of Patent App. & Int. 1988) (declaring non-statutory bank accounting system).

In general what makes such an abstract process statutory, or any algorithm in which a human could have merely thought or calculated alone by following a set of flowcharts or procedures, into the realm of statutory subject matter falling under 101 is an analysis showing a pre- or post- solution activity using specific structure such as unique data gathering sensors (*e.g. Arrhythmia*) or computer signal output controlling unique specific equipment (e.g. *Diamond v. Diehr*, 209 U.S.P.Q. 1 (1981), also *Parker v. Flook* 198 U.S.P.Q. 193 (C.C.P.A. 1978), *see* also *Diamond v. Diehr*, 209 U.S.P.Q. 1 (1981)), for the analysis showing the practical application integral with transforming or reducing an article to a different state or thing rather than a claim for patent protection for that formula in the abstract. An invention must "comprise an otherwise statutory process whose mathematical procedures are applied to physical process steps." *Arrhythmia*, 958 F.2d at 1059. An invention must involve the transformation or conversion of subject matter representative of or constituting physical activity or objects, *Schrader*, 22 F.3d at 294.

Examiner asserts that the Claims as submitted, being given their broadest reasonably interpretation, while applying applicable case law and the PTO guidelines, are deficient with respect to 35 U.S.C. 101 and are, therefore, rejected based on the aforementioned rationale.

When the claim limitations are read in light of the specification, especially for step or means-plus-function type limitations, *see In re Donaldson Co. Inc.*, 29 U.S.P.Q. 1845, the claim language of "processing said data inputs" directs the Examiner to the specification, which reveals an "accounting subroutine," and "income statements," (page 10, lines 6-25); "depreciation adjustments" (page 12, line 35); and "statistical comparisons" (page 13, line 2), which Examiner contends are math algorithms in prose recitation form. The remaining steps of:

a) establishing at least one file; and

b) providing a plurality of data inputs to said file from a plurality of sources,

Examiner contends are data gathering steps, *see In re Grams*, 888 F.2d 840.

While step c) providing access to said file for agents of the entities, merely allows for implementation of the math algorithm. There is no practical application associated with these specific elements. A computer algorithm itself is examined for its operative interrelationship with its practical application for determination as falling under 35 U.S.C. 101 within statutory subject matter.

As per independent Claims 1, and 21 they are rejected upon 35 U.S.C. § 101 grounds based upon the rationale provided, *supra*.

As per Claims 2-3, and 8-13, Examiner asserts the entering of data into the file, and entering coding information appropriate to the entity are merely data gathering steps, and run afoul of the Courts rulings in *In re Grams*, 888 F.2d 840.

As per Claim 4, Examiner asserts the addition of the limitation assigning an account a code number, i.e. file coding information,(specification page 5, line 2) the procedure is not a sufficient application to render an otherwise nonstatutory subject matter patentable. *See Grams*, 888 F.2d at 840, 12 U.S.P.Q.2d at 1828; *In re Sarkar,* 588 F.2d 1330, 1335, 200 U.S.P.Q. 132, 139 (C.C.P.A. 1978); *In re Chatfield*, 545 F.2d 152, 158, 191 U.S.P.Q. 730, 736 (C.C.P.A. 1976), *cert. denied, Dann v. Noll*, 434 U.S. 875, 98 S.Ct. 226 (1977).

As per Claims 6, 14-18, and 23-24 the transferring of data to and from subsidiary ledgers or the utilization of EFT to transfer funds do not involve a transformation or conversion of subject matter representative of or constituting physical activity or objects as required by *Schrader*, 22 F.3d at 294.

As per Claim 19, 20, and 22 Examiner asserts that the providing and printing of a statement does not provide sufficient post solution activity to overcome or transform these claims from nonstatutory to statutory status, *see Parker v. Flook* 198 U.S.P.Q. 193.

As per Claim 25, is reject based substantially upon the same rationale as employed in Claims 1 and 21, *supra.* Examiner asserts the mere performance of the same non-statutory process on a second computer does not overcome the 101 hurdle that must be negotiated by the Applicant.

As per Claims 26 and 27, the mere fact that the algorithm is running on a computer does not transform the nonstatutory to the statutory realm, *see State Street* 38 U.S.P.Q. 1530, at 1537-1538, where the Court stated that this alone is not determinative. The Freeman-Walter-Abele test must be applied, and as is evident from the preceding discussions Examiner contends that the Applicant has failed to meet those requirements.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hayward A. Verdun whose telephone number is (703) 305-9770. The examiner can normally be reached on Monday through Friday 8:00 A.M. to 4:30 P.M.

If attempts to reach the Examiner are unsuccessful, the Examiner's supervisor, Ms. Gail Hayes, can be reached at (703) 305-9711.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.

HAV
HAV
June 19, 1996

Gail Hayes

GAIL O. HAYES
SUPERVISORY PATENT EXAMINER
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